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| **The Unusual Fatal Presentation of Cocaine Levamisole Induced Vasculitis** |
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| **Introduction**  Cocaine use have been associated with spectrum of diseases. Approximately 70% of cocaine consumed in USA is contaminated with Levamisole, an immunomodulating agent, which attributed to increase profit and volume along with enhanced euphoria and stimulatory effect of cocaine by increasing the dopamine and producing amphetamine like metabolites. Cocaine mixed with Levamisole poses risk of vasculitis when consumed for a long time which have a range of different clinical manifestation among which most common are arthralgias (83%), cutaneous lesions (61%) and Hematological (Leukopenia - 28%). There are also multiple rare findings associated with cocaine induced vasculitis including abnormal urinalysis, glomerulonephritis and pulmonary hemorrhages (3 cases). We now present a rare case of Cocaine induced vasculitis resulting in intracranial pathology.  **Case**  64 Year old morbidly obese female with PMHx of COPD, CAD, Hypertension, OSA, Hyperlipidemia and Renal cell carcinoma (s/p R Nephrectomy) brought to the ER by EMR in an unresponsive state for > 6hrs, GCS Score of 3/15 with BP 180/89 mmHg otherwise vitals stable and non significant physical exam findings. She was admitted to ICU under critical care team with close monitoring. Blood work on admission have no significant finding except for leukocytosis (SIRS 2/4) with no identified source of infection with normal procalcitonin levels. Stat CT Scan and later MRI was ordered which showed multiple lesion mostly on watershed areas suggesting infarcts vs brain mets. Neurology and cardiology were consulted. MRA was performed which ruled out any thrombosis. Cardiac ECHO also showed no evidence of thrombus or vegetations. EEG reported continuous generalized slowing, no focal slowing, no seizure and no asymmetry. Her urine tox was +ve for Cocaine. Her initial presentation of unresponsiveness led to limited rhematological tests. Her basic rheumatological panel showed ANA positive 1:160, normal Complement { C3 -126 mgs/dl (90-180 mg/dl NR) and C4 - 25.2 mgs/dl (10-40 mgs/dl) }. She was also found to be +ve for pANCA (1:120). She was out of the window for levamisole testing so it was deferred. Considering the initial rheumatological panel and positive cocaine thus the diagnosis of cocaine induced vasculitis was made by the rheumatologist and other specialists. With respect to cocaine levamisole induced vasculitis she was started on IV steroid therapy which is the mainstay of the treatment. She showed a favorable response with an initial neurological recovery but later deteriorated with time. Considering her guarded prognosis her code status was discussed with her family and was changed. She was extubated on day 13th and care was transferred to hospice. She died on 17th day of event and 4th day post-extubation.  **Discussion**  Cocaine-levamisole vasculopathy is classified as small vessel vasculitis. Though the cutaneous and musculoskeletal are the most common presentation of Cocaine-Levamisole induced vasculitis but the spectrum of disease associated are still under observation. Typical cutaneous lesions include but not limited to retiform purpura of the trunk (most common, mostly involving lower extremities, 84%), ear purpura (73%) and lichenoid. Whereas most common musculoskeletal manifestation is arthralgias and hematological features include neutropenia and agranulocytosis. Other common non specific features which makes 72% include low grade fever, night sweats and weight loss. A case series of 4 patients also suggested association with pauci-immune vasculitis. One of the case series also suggested a female predominance of about 81%. Typical lab findings suggested by multiple case reports are ANCA positivity more specifically p-ANCA (88%) which our patient had. Other suggested findings are presence of anti-MPO and anti-PR3 (50%) positivity. The half life of levamisole is ~5.6 hours. Multiple case reports showed that test was positive in less than 50% patients, which makes positive labs a challenge. Thus multiple authors have suggested that not all rheumatogical results are not required to be positive if clinical and basic rheumatological panel are suggestive of pathophysiology related to cocaine-levamisole induced vasculopathy. The recommended treatment is steroids along with other immunomodulating agents, choice of drug is still on the discretion of physician and needs to be further studied. On the basis of the above discussion I strongly suggest our case of “Cocaine-Levamisole Induced Vasculitis”. |